

**WEST**[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show S Numbers](#)[Edit S Numbers](#)[Preferences](#)[Cases](#)**Search Results -**

Terms	Documents
L7 and ((502/\$)!.CCLS.)	21

**Database:**

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**Search:**

L8

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 result set
*DB=USPT,PGPB; PLUR=YES; OP=OR*

<u>L8</u>	L7 and ((502/\$)!.CCLS.)	21	<u>L8</u>
<u>L7</u>	L6 and l2	282	<u>L7</u>
<u>L6</u>	L1 same (water or aqueous)	33161	<u>L6</u>
<u>L5</u>	L4 and ((149/\$)!.CCLS.)	10	<u>L5</u>
<u>L4</u>	L2 and l1	1738	<u>L4</u>
<u>L3</u>	L2 and l2	45004	<u>L3</u>
<u>L2</u>	airbag or air adj bag or restraint	45004	<u>L2</u>
<u>L1</u>	recycle or recover	142965	<u>L1</u>

END OF SEARCH HISTORY

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Search Results -

Terms	Documents
L2 not I1	11

Database: 

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Search: 

L3

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side by side		result set	
DB=USPT,PGPB; PLUR=YES; OP=OR			
<u>L3</u>	L2 not I1	11	<u>L3</u>
<u>L2</u>	guanidine and (dinitramide or dinitramine) and 149/\$.ccls.	14	<u>L2</u>
<u>L1</u>	guanidine same (dinitramide or dinitramine)	3	<u>L1</u>

END OF SEARCH HISTORY

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**Search Results -**

Terms	Documents
L1 same guanidine	3

**Database:**

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 IBM Technical Disclosure Bulletins

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L6

Refine Search

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**Hit Count   Set Name**  
 result set

*DB=USPT,PGPB; PLUR=YES; OP=*

<u>L6</u>	L1 same guanidine	3	<u>L6</u>
<u>L5</u>	L1 and guanidine	22	<u>L5</u>
<u>L4</u>	L2 and guanidine	14	<u>L4</u>
<u>L3</u>	L2 and gaunidine	0	<u>L3</u>
<u>L2</u>	L1 and ((149/\$)!.CCLS.)	78	<u>L2</u>
<u>L1</u>	dinitrami\$3	503	<u>L1</u>

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Terms	Documents
L7 and ((280/\$)!.CCLS.)	5

**Database:**

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 result set
*DB=USPT,PGPB; PLUR=YES; OP=OR*

<u>L9</u>	L7 and ((280/\$)!.CCLS.)	5	<u>L9</u>
<u>L8</u>	L7 and ((502/\$)!.CCLS.)	21	<u>L8</u>
<u>L7</u>	L6 and l2	282	<u>L7</u>
<u>L6</u>	L1 same (water or aqueous)	33161	<u>L6</u>
<u>L5</u>	L4 and ((149/\$)!.CCLS.)	10	<u>L5</u>
<u>L4</u>	L2 and l1	1738	<u>L4</u>
<u>L3</u>	L2 and l2	45004	<u>L3</u>
<u>L2</u>	airbag or air adj bag or restraint	45004	<u>L2</u>
<u>L1</u>	recycle or recover	142965	<u>L1</u>

**END OF SEARCH HISTORY**

## WEST Search History

DATE: Tuesday, October 08, 2002

<u>Set Name</u> side by side	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u> result set
<i>DB=USPT,PGPB; PLUR=YES; OP=OR</i>			
L11	L2 and ((149/124)!.CCLS. )	2	L11
L10	L2 and ((149/123)!.CCLS. )	1	L10
L9	L7 and ((280/\$)!.CCLS.)	5	L9
L8	L7 and ((502/\$)!.CCLS.)	21	L8
L7	L6 and l2	282	L7
L6	L1 same (water or aqueous)	33161	L6
L5	L4 and ((149/\$)!.CCLS.)	10	L5
L4	L2 and l1	1738	L4
L3	L2 and l2	45004	L3
L2	airbag or air adj bag or restraint	45004	L2
L1	recycle or recover	142965	L1

END OF SEARCH HISTORY

**WEST**[Help](#)[Logout](#)[Interrupt](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show S Numbers](#)[Edit S Numbers](#)[Preferences](#)[Cases](#)**Search Results -**

Terms	Documents
guanidinium near dinitrami\$3	3

**Database:**

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JPO Abstracts Database  
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**Search:**

L1

[Refine Search](#)[Recall Text](#)[Clear](#)**Search History****DATE:** Tuesday, October 08, 2002   [Printable Copy](#)   [Create Case](#)**Set Name   Query**  
side by side**Hit Count   Set Name**  
result set*DB=USPT,PGPB; PLUR=YES; OP=OR*

<u>L1</u>	guanidinium near dinitrami\$3	3	<u>L1</u>
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END OF SEARCH HISTORY

FILE 'HOME' ENTERED AT 17:59:46 ON 08 OCT 2002

=> fil reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 18:00:01 ON 08 OCT 2002

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STRUCTURE FILE UPDATES: 7 OCT 2002 HIGHEST RN 459783-15-4

DICTIONARY FILE UPDATES: 7 OCT 2002 HIGHEST RN 459783-15-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> s guanidinium dinitramide/cn

L1 0 GUANIDINIUM DINITRAMIDE/CN

=> s guanidinium dinitramine

321 GUANIDINIUM

21 DINITRAMINE

L2 0 GUANIDINIUM DINITRAMINE

(GUANIDINIUM(W) DINITRAMINE)

=> s guanidinium (w) dinitramide

321 GUANIDINIUM

35 DINITRAMIDE

L3 1 GUANIDINIUM (W) DINITRAMIDE

=> d

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS

RN 174818-96-3 REGISTRY

CN Imidodicarbonimidic diamide, compd. with nitronitramide (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Nitramide, nitro-, compd. with imidodicarbonimidic diamide (1:1) (9CI)

OTHER NAMES:

CN **Biguanidinium dinitramide**

MF C2 H7 N5 . H N3 O4

SR CA

LC STN Files: CA, CAPLUS

CM 1

CRN 114045-20-4

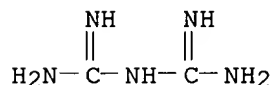
CMF H N3 O4

O<sub>2</sub>N-NH-NO<sub>2</sub>

CM 2

CRN 56-03-1

CMF C2 H7 N5



4 REFERENCES IN FILE CA (1962 TO DATE)

4 REFERENCES IN FILE CAPLUS (1962 TO DATE)

=> file ca

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

23.48

23.69

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=> s l3

L4 4 L3

=> d 1-4

L4 ANSWER 1 OF 4 CA COPYRIGHT 2002 ACS



AN 137:154657 CA  
TI Chemical Bonding in Biguanidinium Dinitramide and Biguanidinium  
Bis-Dinitramide from Experimental X-ray Diffraction Data  
AU Zhurova, Elizabeth A.; Martin, Anthony; Pinkerton, A. Alan  
CS Department of Chemistry, University of Toledo, Toledo, OH, 43606, USA  
SO Journal of the American Chemical Society (2002), 124(29), 8741-8750  
CODEN: JACSAT; ISSN: 0002-7863  
PB American Chemical Society  
DT Journal  
LA English  
RE.CNT 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 4 CA COPYRIGHT 2002 ACS  
AN 137:11174 CA  
TI Characterizing the Oxygen-Oxygen Interaction in the Dinitramide Anion  
AU Zhurova, Elizabeth A.; Tsirelson, Vladimir G.; Stash, Adam I.; Pinkerton,  
A. Alan  
CS Department of Chemistry, University of Toledo, Toledo, OH, 43606, USA  
SO Journal of the American Chemical Society (2002), 124(17), 4574-4575  
CODEN: JACSAT; ISSN: 0002-7863  
PB American Chemical Society  
DT Journal  
LA English  
RE.CNT 121 THERE ARE 121 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 4 CA COPYRIGHT 2002 ACS  
AN 127:143091 CA  
TI Energetic materials: the preparation and structural characterization of  
three biguanidinium dinitramides  
AU Martin, Anthony; Pinkerton, A. Alan; Gilardi, Richard D.; Bottaro, Jeffrey  
C.  
CS Dep. Chem., Univ. Toledo, Toledo, OH, 43606, USA  
SO Acta Crystallographica, Section B: Structural Science (1997), B53(3),  
504-512  
CODEN: ASBSDK; ISSN: 0108-7681  
PB Munksgaard  
DT Journal  
LA English

L4 ANSWER 4 OF 4 CA COPYRIGHT 2002 ACS  
AN 124:236464 CA  
TI Charge densities and electrostatic potentials for energetic materials  
AU Pinkerton, A. A.; Martin, A.  
CS Department of Chemistry, University of Toledo, Toledo, OH, 43606, USA  
SO Materials Research Society Symposium Proceedings (1996),  
418(Decomposition, Combustion, and Detonation Chemistry of Energetic  
Materials), 49-54  
CODEN: MRSPDH; ISSN: 0272-9172  
PB Materials Research Society  
DT Journal  
LA English

=> d 3-4 all

L4 ANSWER 3 OF 4 CA COPYRIGHT 2002 ACS  
AN 127:143091 CA  
TI Energetic materials: the preparation and structural characterization of  
three biguanidinium dinitramides  
AU Martin, Anthony; Pinkerton, A. Alan; Gilardi, Richard D.; Bottaro, Jeffrey  
C.

CS Dep. Chem., Univ. Toledo, Toledo, OH, 43606, USA  
 SO Acta Crystallographica, Section B: Structural Science (1997), B53(3),  
 504-512  
 CODEN: ASBSDK; ISSN: 0108-7681  
 PB Munksgaard  
 DT Journal  
 LA English  
 CC 75-8 (Crystallography and Liquid Crystals)  
 Section cross-reference(s): 23  
 AB Three biguanidinium salts of the energetic dinitramide anion were prepd.  
 and structurally characterized from room-temp. x-ray diffraction data.  
 Biguanidinium mono-dinitramide, (BIGH)(DN), is triclinic, space group  
 P.hivin.1, a 4.3686(4), b 9.404(2), c 10.742(1) .ANG., .alpha. 83.54(1),  
 .beta. 80.386(9), .gamma. 79.93(1).degree., Z = 2, dc = 1.62, R = 0.041.  
 Biguanidinium bis-dinitramide, (BIGH2)(DN)2, is monoclinic, space group  
 C2/c, a 11.892(2), b 8.131(1), c 13.038(2) .ANG., .beta.  
 115.79(1).degree., Z = 4, dc = 1.844, R = 0.0533. Biguanidinium  
 bis-dinitramide monohydrate, (BIGH2)(DN)2.H2O, is orthorhombic, space  
 group P212121, a 6.4201(6), b 13.408(1), c 14.584(2) .ANG., Z = 4, dc =  
 1.76, R = 0.040. At. coordinates are given. All three structures were  
 characterized by extensive H bonding. Both the mono- and diprotonated  
 cations consist of two planar halves twisted with respect to each other.  
 The dinitramide anion has a surprisingly variable and asym. structure.  
 The two halves of the anion are twisted with respect to each other;  
 however, the twist varies from 5.1 to 28.9.degree.. The two ends of the  
 anion have significantly different geometries, e.g. the 'equiv.' N-N bond  
 lengths differ by up to 0.045 .ANG..  
 ST mol structure biguanidinium dinitroamide; hydrogen bond biguanidinium  
 dinitroamide  
 IT Crystal structure  
 Molecular structure  
 (of biguanidinium dinitramides)  
 IT **174818-96-3P** 174818-97-4P 193151-09-6P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and crystal structure of)  
 L4 ANSWER 4 OF 4 CA COPYRIGHT 2002 ACS  
 AN 124:236464 CA  
 TI Charge densities and electrostatic potentials for energetic materials  
 AU Pinkerton, A. A.; Martin, A.  
 CS Department of Chemistry, University of Toledo, Toledo, OH, 43606, USA  
 SO Materials Research Society Symposium Proceedings (1996),  
 418(Decomposition, Combustion, and Detonation Chemistry of Energetic  
 Materials), 49-54  
 CODEN: MRSPDH; ISSN: 0272-9172  
 PB Materials Research Society  
 DT Journal  
 LA English  
 CC 50-2 (Propellants and Explosives)  
 Section cross-reference(s): 22  
 AB High-resoln. (sin.theta./lambda. < 1.34 .ANG.-1), low-temp. (85 K) x-ray  
 diffraction data were used to map the deformation d. and the derived  
 electrostatic potential for three dinitramide salts. The traditional  
 presentation of contour maps was replaced with 3-dimensional views of the  
 mol. A comparison of the dinitramide ions from each salt was presented.  
 ST dinitramide anion electrostatic potential charge density; ammonium  
 dinitramide electrostatic potential charge density; biguanidinium  
 dinitramide electrostatic potential  
 IT Explosives  
 (charge densities and electrostatic potentials for ammonium and  
 biguanidinium dinitramide salts)  
 IT Electric potential  
 (electrostatic, for ammonium and biguanidinium dinitramide salts)

IT 134757-80-5  
 RL: PRP (Properties)  
 (charge densities and electrostatic potentials for ammonium and  
 biguanidinium dinitramide salts)

IT 140456-78-6  
 RL: PRP (Properties)  
 (charge densities and electrostatic potentials for ammonium  
 dinitramide)

IT **174818-96-3** 174818-97-4  
 RL: PRP (Properties)  
 (charge densities and electrostatic potentials for biguanidinium  
 dinitramide salts)

=> log y

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
10.82	34.51

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-1.18	-1.18

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